LPDES PERMIT NO. LA0038890, AI No. 2290

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. **Company/Facility Name:** Nalco Company
Garyville Facility
3628 Highway 44
Garyville, Louisiana 70051

II. **Issuing Office:** Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

III. **Prepared By:** Jenniffer Sheppard
Industrial Permits Section
Water Permits Division
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Date Prepared: October 8, 2008

IV. **Permit Action/Status:**

A. Reason For Permit Action:

Proposed reissuance of an existing Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46*.

* In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX.Chapter 11) will not have dual references.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.

B. NPDES permit - NPDES permit effective date: NA
NPDES permit expiration date: NA
EPA has not retained enforcement authority.

C. LPDES permit - LPDES permit effective date: January 1, 2004.
LPDES permit expiration date: December 31, 2008.

LPDES Permit Minor Modification effective date: May 1, 2004.

D. Application received on June 3, 2008. Additional information dated October 7, 2008.

V. Facility Information:

A. Location - 3628 Highway 44 in Garyville

B. Applicant Activity -

According to the application, Nalco Company, Garyville Facility, is a specialty organic chemical manufacturer that blends/manufactures speciality chemicals for industrial and municipal applications.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guideline	Reference
Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR 414
Process Flow - 0.429 MGD	Subparts H and I

Other sources of technology based limits:
LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).
Louisiana Water Quality Management Plan for Sanitary Dischargers.
LDEQ Sanitary General Permits
Best Professional Judgment

D. Fee Rate -
1. Fee Rating Facility Type: major
2. Complexity Type: VI
3. Wastewater Type: II
4. SIC code: 2869, 2899, 2819, and 2843

E. Continuous Facility Effluent Flow - 0.6255 MGD (Max 30-Day), 0.5590 MGD (Average).

Outfall 001 - 0.5620 MGD (Max 30-Day)
0.5140 MGD (Average)

Outfall 002 - 0.0635 MGD (Max 30-Day)
0.0450 MGD (Average)

The Max 30-Day Flow reported for Outfall 001 is 0.5620 MGD. This value has been used for water quality screening purposes only. The application did not provide Max 30-Day Flows for individual wastewater streams for Outfall 001, therefore, the calculations for the Technology Based Effluent Limitations utilize the average flow of 0.5140 MGD.

VI. **Receiving Waters:** Mississippi River (Outfalls 001 & 002) and Lake Maurepas via local drainage and Hope Canal (Outfalls 003, 004, and 005).

Lake Maurepas via local drainage and Hope Canal (Outfalls 003, 004, and 005)

1. River Basin: Lake Maurepas, Segment No. 040602
2. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

Mississippi River (Outfalls 001 & 002)

1. TSS (15%), mg/L: 26.6
2. Average Hardness, mg/L $CaCO_3$: 149.7
3. Critical Flow, cfs: 141,955
4. Mixing Zone Fraction: 0.33333
5. Harmonic Mean Flow, cfs: 366,748
6. River Basin: Mississippi River, Segment No. 070301
7. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: LAC 33:IX Chapter 11;/Recommendation(s) from the Engineering Section. Hardness and 15% TSS data come from monitoring station 321 on the Mississippi River, south of Lutcher and listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc. This information was presented in a memorandum from Todd Franklin to Jenniffer Sheppard dated October 7, 2008 (See Appendix C).

VII. Outfall Information:

Outfall 001

A. Type of wastewater - the discharge of treated process wastewater from the following areas: acrylamide manufacturing, emulsion polymerization, general purpose reactors and blenders, kathon/glutaraldehyde blends, storage and cleaning, evonik polymer, and the lab; process area stormwater; utility wastewaters including but not limited to, cooling tower blowdown, boiler blowdown, and water demineralizer; coagulants and cleaners wastewater (aka Aluminum Process wastewater); and previously monitored and treated sanitary wastewater from Internal Outfall 101.

B. Location - at the point in the discharge line following the mixing of the process and sanitary effluents, but prior to combining with any other waters, at Latitude 30°02'34", Longitude 90°37'53".

C. Treatment - treatment of process wastewaters consists of:
- neutralization
- carbon absorption
- activated sludge
- flocculation
- sedimentation
- aerobic digestion
- sludge chemical conditioning
- belt filtration

D. Flow - Continuous Flow 0.5140 MGD (Average Flow).

Process Wastewater*	0.4290 MGD
Utility Wastewater*	0.0400 MGD
Sanitary Wastewater*	0.0100 MGD
Miscellaneous Wastewater*	0.0350 MGD

* Specific component waste streams are defined at Appendix A-1.

E. Receiving waters - Mississippi River.

F. Basin and segment - Mississippi River Basin, Segment 070301.

Internal Outfall 101

A. Type of wastewater - the discharge of treated sanitary wastewater.

B. Location - at the point of discharge from the treatment facility prior to combining with the waters of Final Outfall 001, at Latitude 30°02'50", Longitude 90°37'41".

C. Treatment - treatment of sanitary wastewaters consists of:
- package treatment plant

D. Flow - Intermittent, (Average Flow) 0.01 MGD.

E. Receiving waters - Mississippi River via Final Outfall 001.

F. Basin and segment - Mississippi River Basin, Segment 070301.

Outfall 002

A. Type of wastewater - the discharge of the underflow stream from the raw river water intake clarification system.

B. Location - at the point of discharge in the raw river water intake clarifier's underflow line prior to combining with the process and sanitary effluents of Final Outfall 001, at Latitude 30°02'34", Longitude 90°37'53".

C. Treatment - treatment of the underflow stream consists of:
- sand filter backwashing
- clarification

D. Flow - Continuous, (Max 30-Day) 0.0635 MGD, (Average) 0.0450 MGD.

E. Receiving waters - Mississippi River via Final Outfall 001.

F. Basin and segment - Mississippi River Basin, Segment 070301.

Outfall 003

A. Type of wastewater - the discharge of low contamination potential stormwater runoff from the northeast corner of the facility.

B. Location - at the northeast corner of the developed facility property at a point in the drainage after the stormwater crosses the v-notch weir, but prior to passing through the fence between the developed property and the undeveloped property, at Latitude 30°03'00", Longitude 90°37'39".

C. Treatment - None.

D. Flow - Intermittent.

E. Receiving waters - Lake Maurepas via local drainage and Hope Canal.

F. Basin and segment - Lake Pontchartrain River Basin, Segment 040602.

Outfall 004

A. Type of wastewater - the discharge of low contamination potential stormwater runoff from the northwest corner of the facility.

B. Location - at the northwest corner of the developed facility property at a point in the drainage after the stormwater crosses the v-notch weir, but prior to passing through the fence between the developed property and the undeveloped property, at Latitude 30°03'00", Longitude 90°37'55".

C. Treatment - None.

D. Flow - Intermittent.

E. Receiving waters -Lake Maurepas via local drainage and Hope Canal.

F. Basin and segment - Lake Pontchartrain River Basin, Segment 040602.

Outfall 005

A. Type of wastewater - the discharge of low contamination potential stormwater runoff from Outfall 003, Outfall 004, and the property located at the northern boundary of the facility.

B. Location - at the point of discharge from the northwest corner of the facility property prior to entering an unnamed ditch leading to Hope Canal, at Latitude 30°03'30", Longitude 90°37'41".

C. Treatment - None.

D. Flow - Intermittent.

E. Receiving waters -Lake Maurepas via local drainage and Hope Canal.

F. Basin and segment - Lake Pontchartrain River Basin, Segment 040602.

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

A. Outfall 001 - The outfall description has been expanded to include all contributing sources. The outfall description now reads:

Outfall 001, the discharge of process wastewater from the following areas: acrylamide manufacturing, emulsion polymerization, general purpose reactors and blenders, kathon/glutaraldehyde blends, storage and cleaning, evonik polymer, and the lab; process area stormwater; utility wastewaters including but not limited to, cooling tower blowdown, boiler blowdown, and water demineralizer; coagulants and cleaners wastewater (aka Aluminum Process wastewater); and previously monitored and treated sanitary wastewater from Internal Outfall 101.

B. Outfall 001 - The process wastewater flow has increased from 0.3815 MGD to 0.4290 MGD (overall change to outfall flow from 0.5010 MGD to 0.5140 MGD). Due to the slight increase of flow, the limitations at this outfall have also increased. The limitations were calculated in accordance with the OCPSF Guidelines at 40 CFR 414, Subparts H and I. Additionally, the Max 30-Day Flow of 0.562 MGD has been screened against the current water quality standards to ensure protection of the Mississippi River.

C. Outfall 001 - deletion of monitoring requirements for Total Ammonia (as N) and Total Phosphorus. These parameters were established to address phosphorus and nitrogen impairments in the Mississippi River (Subsegment 070301) as indicated in the Court Ordered 303(d) list at the time of last permit issuance. The most recent listing for impaired waterbodies (the 2006 Final Integrated Report) did not contain phosphorus or nitrogen as impairments in Subsegment 070301, therefore, these parameters have been deleted.

The LDEQ is aware of the occurrence of a low oxygen hypoxic or "dead zone" in the Gulf of Mexico and its relationship to nutrients and fresh water from the Mississippi River and has developed a criteria development plan for state waters in coordination with EPA to create defensible nutrient criteria based on the best available science. Work on criteria for the Mississippi River is an ongoing effort and will require further scientific investigation because of the complex nature of the large Mississippi River watershed which includes over 30 states and two Canadian Provinces. A reopener clause has been established in the permit in accordance with LAC 33:IX.2903 which

allows LDEQ to modify, or alternatively, revoke and reissue the permit to comply with any more stringent nutrient limitations or requirements that are promulgated in the future.

D. Outfall 001 - The LPDES Permit effective on July 1, 1998 erroneously allotted full OCPSF concentrations for TSS (57 mg/L, Monthly Average and 183 mg/L Daily Maximum) on miscellaneous wastewaters (identified as Aluminum Process) instead of fifty percent which was/is current guidance for these types of discharges. Therefore, reduced TSS allocations for the miscellaneous wastewater have been applied in this permit renewal. TSS concentrations for miscellaneous wastewaters were reduced to 28.5 mg/L Monthly Average and 91.5 mg/L Daily Maximum.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS, CONDITIONS, AND MONITORING REQUIREMENTS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgment) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. See outfall information descriptions for associated outfall(s) in Section VII. Regulations also require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(I)].

1. Outfall 001 - Process Wastewater Outfall.

***Outfall 001** -the discharge of treated process wastewater from the following areas: acrylamide manufacturing, emulsion polymerization, general purpose reactors and blenders, kathon/glutaraldehyde blends, storage and cleaning, evonik polymer, and the lab; process area stormwater; utility wastewaters including but not limited to, cooling tower blowdown, boiler blowdown, and water demineralizer; coagulants and cleaners wastewater (aka Aluminum Process wastewater); and previously monitored and treated sanitary wastewater from Internal Outfall 101.

Nalco Company, Garyville Facility is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
Organic chemical manufacturing	40 CFR 414 Subpart(s) H and I

Subpart H = Specialty Organic Chemicals makes up 100% of the Production at Nalco Company's Garyville Facility.

Subpart I = Direct Discharge Point Sources That Use End-Of-Pipe Biological Treatment.

Outfall 001 Flow Contributions	Flow, MGD
OCPSF WW	
Acrylamide Manufacturing Process	0.085
Emulsion Polymerization	0.0825
General Purpose Reactors	0.06
General Purpose Blenders	0.06
Kathon/Glutaraldehyde Blends	0.005
Storage and Cleaning	0.05
Evonik Polymer Process WW	0.045
Lab WW	0.003
Process Area SW	0.0385
Total OCPSF WW	**0.429**
BOD5/TSS BPJ Allocation Wastewaters	
Total Sanitary WW (Outfall 101)	**0.01**
Miscellaneous	
Coagulants & Cleaners (a.k.a. Aluminum Process)	0.035
Total Miscellaneous	**0.035**

Utility	
Cooling Tower Blowdown	0.01
Boiler Blowdown	0.015
Water Demineralizer	0.015
Total Utility	**0.040**
TOTAL OCPSF & BPJ FLOW	**0.5140**

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, µG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
pH (Standard Units)	---	---	6.0 (Min)	9.0 (Max)	5/week
BOD_5	170	446	---	---	1/week
TSS	228	712	---	---	1/week
COD	1632	3376	---	---	1/week
Oil & Grease	43	64	---	---	1/week
Total Copper (mb)	0.79	1.86	---	---	1/month
Total Zinc (mb)	1.29	2.57	---	---	1/month
Acrylonitrile	0.34	0.87	---	---	1/year
Benzene	0.13	0.49	---	---	1/year
Carbon Tetrachloride	0.06	0.14	---	---	1/year
Chlorobenzene	0.05	0.10	---	---	1/year
Chloroethane	0.37	0.96	---	---	1/year
Chloroform	0.08	0.16	---	---	1/year
1,1-Dichloroethane	0.08	0.21	---	---	1/year
1,2-Dichloroethane	0.24	0.75	---	---	1/year
1,1-Dichloroethylene	0.06	0.09	---	---	1/year
1,2-trans-Dichloroethylene	0.08	0.19	---	---	1/year
1,2-Dichloropropane	0.55	0.82	---	---	1/year

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, µG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
1,3-Dichloropropylyene	0.10	0.16	---	---	1/year
Ethylbenzene	0.11	0.39	---	---	1/year
Methyl Chloride	0.31	0.68	---	---	1/year
Methylene Chloride	0.14	0.32	---	---	1/year
Tetrachloroethylene	0.08	0.20	---	---	1/year
Toluene	0.09	0.29	---	---	1/year
1,1,1-Trichloroethane	0.08	0.19	---	---	1/year
1,1,2-Trichloroethane	0.08	0.19	---	---	1/year
Trichloroethylene	0.08	0.19	---	---	1/year
Vinyl Chloride	0.37	0.96	---	---	1/year
2-Chlorophenol	0.11	0.35	---	---	1/year
2,4-Dichlorophenol	0.14	0.40	---	---	1/year
2,4-Dimethylphenol	0.06	0.13	---	---	1/year
4,6-Dinitro-o-Cresol	0.28	0.99	---	---	1/year
2,4-Dinitrophenol	0.25	0.44	---	---	1/year
2-Nitrophenol	0.15	0.25	---	---	1/year
4-Nitrophenol	0.26	0.44	---	---	1/year
Phenol	0.05	0.09	---	---	1/year
Acenaphthene	0.08	0.21	---	---	1/year
Acenaphthylene	0.08	0.21	---	---	1/year
Anthracene	0.08	0.21	---	---	1/year
Benzo (a) anthracene	0.08	0.21	---	---	1/year
Benzo (a) pyrene	0.08	0.22	---	---	1/year
3,4-Benzofluoranthene	0.08	0.22	---	---	1/year
Benzo(k)fluoranthene	0.08	0.21	---	---	1/year

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, µG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Bis(2-ethylhexyl)phthalate	0.37	1.00	---	---	1/year
Chrysene	0.08	0.21	---	---	1/year
1,2-Dichlorobenzene	0.28	0.58	---	---	1/year
1,3-Dichlorobenzene	0.11	0.16	---	---	1/year
1,4-Dichlorobenzene	0.05	0.10	---	---	1/year
Diethyl phthalate	0.29	0.73	---	---	1/year
Dimethyl phthalate	0.07	0.17	---	---	1/year
Di-n-butyl phthalate	0.10	0.20	---	---	1/year
2,4-Dinitrotoluene	0.40	1.02	---	---	1/year
2,6-Dinitrotoluene	0.91	2.29	---	---	1/year
Fluoranthene	0.09	0.24	---	---	1/year
Fluorene	0.08	0.21	---	---	1/year
Hexachlorobenzene	0.05	0.10	---	---	1/year
Hexachlorobutadiene	0.07	0.18	---	---	1/year
Hexachloroethane	0.08	0.19	---	---	1/year
Naphthalene	0.08	0.21	---	---	1/year
Nitrobenzene	0.10	0.24	---	---	1/year
Phenanthrene	0.08	0.21	---	---	1/year
Pyrene	0.09	0.24	---	---	1/year
1,2,4-Trichlorobenzene	0.24	0.50	---	---	1/year

(mb) - metal bearing streams

Calculations and basis of permit limitations are found at Appendix A-1 and associated appendices. See below for site-specific considerations.

Site-Specific Consideration(s) for Outfall 001

Flow - established in accordance with LAC 33:IX.2707.I.1.b. A sampling frequency of continuous recorder has been established for flow and applied based on best professional judgment. These requirements were retained from the LPDES Permit effective on January 1, 2004.

PH - established in accordance with LAC 33:IX.1113.C.1. A sampling frequency of 5/week has been established for PH and applied based on best professional judgment. These requirements were retained from the LPDES Permit effective on January 1, 2004.

BOD_5 and TSS - monthly average and daily maximum limitations established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart H for the Specialty Organic Chemical Subcategory for 0.429 MGD of process wastewater. Additionally, allocations were granted for sanitary wastewater, miscellaneous wastewater, and utility wastewater based on best professional judgment. Sanitary allocations have been applied to a flow of 0.01 MGD and were based on concentrations established in the LPDES Sanitary General Permits, the Louisiana Water Quality Management Plan, Areawide Sanitary Effluent Limits Policy and Statewide Sanitary Effluent Limits Policy,, as applicable (30 mg/L Monthly Averagé and 45 mg/L Daily Maximum for BOD_5 and TSS). Miscellaneous wastewater allocations have been applied to a flow of 0.035 MGD and were based on current allowable concentrations for thesè types of discharges (10 mg/L Monthly Average and 20 mg/L Daily Maximum for BOD_5 and 28.5 mg/L Monthly Average and 91.5 mg/L Daily Maximum for TSS). Utility wastewater allocations have been applied to a flow of 0.04 MGD and were based on concentrations established in the October 16, 1989 NPDES permit (10 mg/L Monthly Average and 20 mg/L Daily Maximum for BOD_5 and 40 mg/L Monthly Average and 80 mg/L Daily Maximum for TSS). The monitoring frequency of 1/week has been retained from the current LPDES permit effective on January 1, 2004.

COD - limitations were originally established due to drinking water intakes in the Mississippi River. The COD/BOD_5 ratios of 9.61 for the Monthly Average and 7.57 for the Daily Maximum have been retained from the current LPDES permit effective on January 1, 2004. These ratios were derived from the COD/BOD_5 limitations (1250 lbs/day Monthly Average and 2500 lbs/day Daily Maximum for COD and 130 lbs/day Monthly Average and 330 lbs/day Daily Maximum for BOD_5) established in the October 16, 1989 NPDES permit and the July 1, 1998 LPDES permit. The monitoring frequency of 1/week has also been retained.

Oil & Grease - BPJ concentrations of 10 mg/L Monthly Average and 15 mg/L Daily Maximum have been retained from the current LPDES Permit effective on January 1, 2004 and applied to the entire outfall flow of 0.514 MGD. The monitoring frequency of 1/week has also been retained.

Total Copper - originally established due to the process outfall being identified as a metal-bearing stream with elevated levels of copper. The concentrations of 0.22 mg/L Monthly Average and 0.52 mg/L Daily Maximum were retained from the current LPDES permit effective on January 1, 2004 (derived from the October 16, 1989 NPDES permit) and have been applied to the process flow of 0.429 MGD. The monitoring frequency of 1/month has also been retained.

Total Zinc - originally established due to the presence of zinc at this outfall in treatable quantities. The concentrations of 0.3 mg/L Monthly Average and 0.6 mg/L Daily Maximum were retained from the current LPDES permit effective on January 1, 2004 (derived from the October 16, 1989 NPDES permit) and have been applied to the entire outfall flow of 0.514 MGD. The monitoring frequency of 1/month has also been retained.

Acrylonitrile, Benzene, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropylene, Ethylbenzene, Methyl Chloride, Methylene Chloride, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2-Chlorophenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 4,6-Dinitro-o-cresol, 2,4-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, Phenol, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, 3,4-Benzofluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, Naphthalene, Nitrobenzene, Phenanthrene, Pyrene, 1,2,4-Trichlorobenzene - limitations established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart I for direct discharge point sources that use end-of-pipe biological treatment. A monitoring frequency of 1/year has been retained from the current LPDES permit effective on January 1, 2004. This frequency is appropriate since these pollutants are not expected to be on site.

***Internal Outfall 101** - the discharge of treated sanitary wastewater.

Sanitary wastewater that is included as a part of the process wastewater stream receive BPJ allocations for BOD_5 and TSS loading(s) to the process wastewaters at Appendix A-1. Sanitary wastewaters (internal or external) are regulated in accordance with LAC 33:IX.711 or 709.B, by BPJ utilizing the LPDES Sanitary General Permits issued by this Office, and the Louisiana Water Quality Management Plan, Areawide Sanitary Effluent Limits Policy and Statewide Sanitary Effluent Limits Policy, as applicable. Concentration limits are used in accordance with LAC 33:IX.2707.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement.

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	WEEKLY AVERAGE	MONTHLY AVERAGE	WEEKLY AVERAGE	WEEKLY AVERAGE
Flow, MGD	Report	Report	---	---	1/quarter
Fecal Coliform colonies/100ml	---	---	---	400(*)	1/quarter

(*) The statistical basis for Fecal Coliform shall be reported on the DMR as a daily maximum in lieu of a weekly average.

Site-Specific Consideration(s) for Internal Outfall 101

Flow - established in accordance with LAC 33:IX.2707.I.1.b. A sampling frequency of 1/quarter has been established for flow and applied based on best professional judgment. These requirements were retained from the LPDES Permit effective on January 1, 2004.

Fecal Coliform - Daily maximum value of 400 colonies per 100 ml has been established in accordance with the LPDES Sanitary General Permits, the Louisiana Water Quality Management Plan, Areawide Sanitary Effluent Limits Policy and Statewide Sanitary Effluent Limits Policy, as applicable. The monitoring frequency of 1/quarter has been retained from the LPDES Permit effective on January 1, 2004.

2. Outfall 002 - Utility Wastewaters

***Outfall 002** – the discharge of the underflow stream from the raw river water intake clarification system.

Utility wastewaters including clarifier underflow being discharged to discrete outfalls receive BPJ limitations/monitoring requirements according to the following schedule:

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
Coagulants	---	---	---	Inventory Calculation	1/month

Site-Specific Consideration(s) for Outfall 002

Flow - established in accordance with LAC 33:IX.2707.I.1.b.A sampling frequency of continuous recorder has been established for flow and applied based on best professional judgment. These requirements were retained from the LPDES Permit effective on January 1, 2004.

Coagulants - The quantity and types of all coagulants (clarifying agents) used in the intake raw river water treatment clarification system during the sampling month shall be recorded. Records of the quantity and type of coagulants used shall be retained for three (3) years following Part III.C.3. No DMR reporting shall be required. This requirement has been retained from the LPDES Permit effective on January 1, 2004.

3. Outfall(s) 003, 004, and 005 - Stormwater

***Outfall 003** - the discharge of low contamination potential stormwater runoff from the northeast corner of the facility.

***Outfall 004** - the discharge of low contamination potential stormwater runoff from the northwest corner of the facility.

***Outfall 005** - the discharge of low contamination potential stormwater runoff from Outfall 003, Outfall 004, and the property located at the northern boundary of the facility.

Low contaminated potential stormwater discharged through discrete outfall(s) not associated with process wastewater shall receive the following BPJ limitations in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/quarter
TOC	---	---	---	50	1/quarter
Oil & Grease	---	---	---	15	1/quarter
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/quarter

<u>Site-Specific Consideration(s) for Outfalls 003, 004, and 005</u>

Flow - established in accordance with LAC 33:IX.2707.I.1.b. A sampling frequency of 1/quarter has been established for flow based on best professional judgment, similarly permitted industrial discharges, and the Multi-Sector General Permit, LAR050000. These requirements have been retained from the current LPDES Permit effective on January 1, 2004.

PH - established in accordance with LAC 33:IX.1113.C.1. PH has been established at 6.0 to 9.0 s.u. and shall be monitored 1/quarter. These requirements have been retained from the current LPDES permit, effective on January 1, 2004 and are consistent with current stormwater guidance for industrial facilities and the Multi-Sector General Permit, LAR050000.

TOC and Oil & Grease - A daily maximum limitation of 50 mg/L for TOC and 15 mg/L for Oil & Grease has been established and shall be monitored 1/quarter. These requirements have been retained

from the current LPDES permit effective on January 1, 2004 and are consistent with current stormwater guidance for industrial facilities and the Multi-Sector General Permit, LAR050000.

General Requirement for all Stormwater Outfalls

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. Calculations, results, and documentation are given in Appendix B.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

POLLUTANT(S)
None

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. They are also listed in Part II of the permit.

TMDL Waterbodies

Outfalls 001 and 002

The discharges from Outfalls 001 and 002 including the discharge of treated process wastewater from the following areas: acrylamide manufacturing, emulsion polymerization, general purpose reactors and blenders, kathon/glutaraldehyde blends, storage and cleaning, evonik polymer, and the lab; process area stormwater; utility wastewaters including but not limited to, cooling tower blowdown, boiler blowdown, and water demineralizer; coagulants and cleaners wastewater (aka Aluminum Process wastewater); and previously monitored and treated sanitary wastewater from Internal Outfall 101 (Outfall 001), and the underflow stream from the raw river water intake clarification system (Outfall 002) are to Mississippi River, Segment No. 070301. The Mississippi River is not listed on the 2006 Final Integrated Report as being impaired. Therefore, no additional requirements have been established in this permit.

Outfalls 003, 004, and 005

The discharges from Outfalls 003, 004, and 005 include low contamination potential stormwater runoff discharging to Lake Maurepas via local drainage and Hope Canal, Segment No. 040602. Lake Maurepas is listed on the 303(d) report as being impaired with pathogen indicators and non-native aquatic plants. A TMDL is scheduled to be completed by March 31, 2012.

Pathogen Indicators

Fecal coliform is found in discharges of sanitary wastewater and is common parameter used to identify the source of pathogen indicator impairments. Since there are no discharges of sanitary wastewaters into Outfalls 003, 004, and/or 005, LDEQ has determined that there is no reasonable potential that these discharges would cause further pathogen indicator impairments in the receiving waterbody. Therefore, no additional requirements were added to this permit as a result of the pathogen indicator impairment.

Non-Native Aquatic Plants

Non-native aquatic plants are introduced into a waterbody through discharges such as ship ballast water, where the ballast water originates from a different areas/waterbody. Outfalls 003, 004, and 005 do not contain wastewaters that originate from other areas/waterbodies, therefore, LDEQ has determined there is no reasonable potential for these discharges to cause further

impairments to the receiving water body. No additional requirements were added to this permit as a result of the non-native aquatic plant impairment.

A reopener clause will be established in the permit to include more stringent limits based on final loading allocations in the completed and approved TMDL.

Monitoring frequencies for water quality based limited parameters are established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

Site-Specific Consideration(s)

None

D. Biomonitoring Requirements

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall(s) '001 are as follows:

TOXICITY TESTS	FREQUENCY
Acute static renewal 48-hour definitive toxicity test using Daphnia pulex	1/year
Acute static renewal 48-hour definitive toxicity test using fathead minnow (Pimephales promelas)	1/year

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to

measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 0.008%, 0.010%, 0.014%, 0.018%, and 0.025%. The low-flow effluent concentration (critical dilution) is defined as 0.018% effluent.

X. Compliance History/DMR Review:

A. DMR Review - a review was completed covering the period of January 1, 2006 through October 7, 2008. There were no excursions reported during that time.

B. Inspections - A Compliance Evaluation Inspection was completed on March 30, 2007. There were no areas of concern.

C. Enforcement Actions - None.

XI. "IT" Questions

This applicant is not required to submit IT Questions in accordance with La. R.S. 30:2018(A). Nalco Company's Garyville Facility is regulated under the OCPSF Guidelines at 40 CFR 414, Subparts H and I. Limitations under

these guidelines are calculated based on flow. The permit application proposed an increase in flow from 0.501 MGD to 0.514 MGD, which represents a 2.5% increase at the process outfall (001) from the current LPDES permit effective on January 1, 2004. Additionally, there were no changes to any of Nalco Company's other outfalls (002, 003, 004, and 005). LDEQ has determined that a 2.5% increase in flow is not a substantial modification to the permit. Therefore, since Nalco Company is not a major new facility and is not applying for a substantial modification, IT Questions were not an application requirement.

XII. Endangered Species:

The receiving waterbody, Subsegment 070301 of the Mississippi River Basin (Outfalls 001 and 002), has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon and the receiving waterbody, Subsegment 040602 of the Lake Pontchartrain Basin (Outfalls 003, 004, and 005), has been identified as habitat for the Gulf Sturgeon and the West Indian Manatee, which are listed as endangered species. This draft permit was submitted December 2, 2008 to the FWS for review in accordance with a letter dated 10/24/07 from Boggs (FWS) to Brown (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse effect upon the Pallid Sturgeon. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to permit for the discharge described in the application.

XV. Variances:

No requests for variances have been received by this Office.

XVI. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List